We claim:

1. In a method of depositing an enzyme onto an electrically conductive substrate wherein the substrate and a reference electrode are immersed in an aqueous conductive dispersion containing said enzyme and a potential is applied across the substrate and reference electrode to cause the enzyme to accumulate on the substrate, the improvement which comprises the step of adding to said aqueous dispersion a surfactant in an amount at least about equal to the critical micelle concentration for the surfactant in the dispersion.

2. The method of claim 1, said conductive substrate being a biosensor electrode.

3. The method of claim 2, said biosensor electrode including a noble metal therein.

4. The method of claim 2, said biosensor electrode formed of Pt-Ir wire.

5. The method of claim 1, said enzyme selected from the group consisting of the oxidase enzymes.

6. The method of claim 5, said enzyme selected from the group consisting of the glucose, lactate, glutamate, pyruvate, cholesterol, and choline oxidase enzymes.

7. The method of claim 1, said enzyme being glucose oxidase.

8. The method of claim 1, said potential being in the range of from about 1.1 to 1.4 volts versus the other electrode.

9. The method of claim 1, said surfactant being a nonionic surfactant.

10. The method of claim 9, said surfactant comprising octylphenol polymerized with ethylene oxide.

11. The method of claim 10, said surfactant comprising between about 9-10 moles of ethylene oxide per mole of octylphenol.

12. The method of claim 1, said aqueous dispersion comprising a phosphate buffered saline solution of pH about 7.

13. The method of claim 1, said surfactant composition being in the range of from about said critical micelle concentration up to about 10 times the critical micelle composition.

14. The method of claim 1, said potential being applied for a period of from about 40 to 80 minutes.

15. The method of claim 1, the molar ratio of said enzyme to said surfactant in said dispersion ranging from about 0.02 to 0.2.

16. The method of claim 1, said accumulated enzyme on said substrate having a thickness of from about 300 to 600 nm.

17. A method of preparing a biosensor comprising the steps of:

providing an electrically conductive biosensor electrode;

immersing said biosensor electrode and a reference electrode in an aqueous conductive dispersion containing an enzyme and a surfactant in an amount at least equal to the critical micelle concentration for the surfactant in the dispersion;

applying a potential across said biosensor electrode and said reference electrode to cause said enzyme to deposit on the biosensor electrode; and

immersing said enzyme-deposited biosensor electrode in a synthetic monomer, and electropolymerizing the monomer to create a polymer layer intermingled with said deposited enzyme.

18. The method of claim 17, said biosensor electrode including a noble metal therein.

19. The method of claim 18, said biosensor electrode formed of Pt-Ir wire.

20. The method of claim 17, said enzyme selected from the group consisting of oxidase enzymes.

21. The method of claim 20, said enzyme selected from the group consisting of the glucose, lactate, glutamate, pyruvate, cholesterol, and choline oxidase enzymes.

22. The method of claim 21, said enzyme being glucose oxidase.

23. The method of claim 17, said potential being in the range of from about 1.1 to 1.4 volts versus the other electrode.

24. The method of claim 17, said surfactant being a nonionic surfactant.

25. The method of claim 24, said surfactant comprising octylphenol polymerized with ethylene oxide.

26. The method of claim 25, said surfactant comprising between about 9-10 moles of ethylene oxide per mole of octylphenol.

27. The method of claim 17, said aqueous dispersion comprising a phosphate buffered saline solution of pH about 7.

28. The method of claim 17, said surfactant composition being in the range of from about said critical micelle concentration up to about 10 times the critical micelle composition.

29. The method of claim 17, said potential being applied for a period of from about 40 to 80.

30. The method of claim 17, the molar ratio of said enzyme to said surfactant in said dispersion ranging from about 0.02 to 0.2.

31. The method of claim 17, said deposited enzyme on said electrode having a thickness of from about 300 to 600 nm.

32. The method of claim 17, said polymer layer having a thickness of up to about 100 nm.

33. The method of claim 32, said polymer layer having a thickness of from about 10 to 100 nm.

34. The method of claim 17, said monomer being phenol or a substituted phenol.

35. The method of claim 17, including the step of applying a film of (3-aminopropyl) trimethoxysilane over said polymer layer.

36. The method of claim 35, including the step of applying a polyurethane coating over said film.

37. The method of claim 36, said coating having a thickness of from about 1 to 10 microns.

38. A glucose sensor comprising an electrode having glucose oxidase deposited thereon, said glucose sensor having a selectivity stability of up to about ± 10% relative to the initial selectivity of the sensor for a period of at least 60 days.

39. The sensor of claim 38, said selectivity stability being for a period of at least 100 days.

40. The sensor of claim 39, said selectivity stability being for a period of at least 180 days.

41. The sensor of claim 38, said electrode being a noble metal electrode.

42. The sensor of claim 38, said glucose oxidase being intermingled with an electropolymerized polymer layer on said electrode.

43. The sensor of claim 42, said polymer layer formed of polyphenol.

44. The sensor of claim 42, there being a film of (3-aminopropyl) trimethoxysilane over said polymer layer.

45. A biosensor produced by the method of claim 17.